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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,369	02/06/2004	Toshimitsu Usui		6787

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EXAMINER

BEHREND, HARVEY E

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/772,369

Applicant(s)

USUI ET AL.

Examiner

Harvey E. Behrend

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/13/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no proper support in the original disclosure for reciting that the through - cutouts in the upper shroud, are at positions right above the runners, particularly since the runners are spaced from the through -cutouts by vertically extending structures such as the lower shroud 23.

There is no proper support in the original disclosure for reciting (as in claim 8), that every respective two of the recirculation pumps, are fluidly connected to each and every one of the heat exchangers.

Further, there is no proper support in the original disclosure for stating that the reactor recirculation pumps circulate cooling water through the heat exchangers disposed in the lower drywell. Parent claim 5 states the recirculation pumps are used to circulate the cooling water that is within the pressure vessel. The pumps cause this circulation within the pressure vessel itself, by means of the impellers or pump portions

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71. It is not possible for the impellers or pumps portions 71 (which are inside the pressure vessel) to circulate cooling water through the heat exchangers 4 which are positioned outside the pressure vessel and within the lower drywell. Presumably, the heat exchangers 4 are used to cool the motors 70 of the recirculation pumps.

There is no support in the original disclosure for reciting (as in claim 10) that the power supply system is actually constructed such that when at least one of said reactor recirculation pumps stops during normal operation, all the other of said reactor recirculation pumps are stopped.

3. Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague, indefinite and incomplete.

The claims do not provide proper antecedent basis for all terms present, see for example, the term "such positions" in claim 5.

Dependent claim 8 refers to "the cooling water" circulated by the recirculation pumps as being circulated through the heat exchangers disposed in the lower drywell. However, parent claim 5 recites that the cooling water which is circulated by the recirculation pumps, is actually the cooling water within the pressure vessel.

Note that a dependent claim can only add limitations to its parent claim, thus a dependent claim can not properly substitute a different limitation for an already existing limitation in its parent claim.

Thus there is no proper antecedent basis for the term "the cooling water" in claim 8.

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Claim 8 is vague, indefinite and mis-descriptive in indicating that every respective two of the recirculation pumps, are fluidly connected to each and every one of the heat exchangers (note the specification on page 9 lines 22+ and Fig. 8(b)).

Claim 10 is vague, indefinite and mis-descriptive in reciting that the power supply system is somehow constructed such that when at least one of said reactor recirculation pumps stops during normal operation, all the other of said reactor recirculation pumps are stopped.

Claim 5 is vague, indefinite, incomplete and mis-descriptive in referring to the through -cutouts as being at positions right above the runners, particularly since there is intervening vertical structures such as lower shroud 23 (note also applicants Fig. 5 in this respect). Consequently, it is not known as to what all is meant by and is encompassed by the term "right above". Additionally, while an applicant can be his own lexicographer, it is well settled that no term can be given a meaning repugnant to its usual meaning (see MPEP 2173.05(a)).

4. Claims 5-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no adequate description nor enabling disclosure of what all is meant by and is encompassed by the term "right above" in claim 5 (note also, the discussion of this term in section 3 above).

There is no adequate description nor enabling disclosure of how and in what manner, every respective two of the recirculation pumps is fluidly connected to each and every one of the heat exchangers as indicated in claim 8.

There is no adequate description nor enabling disclosure of how and in what manner, the reactor recirculation pumps circulate cooling water through the heat exchangers disposed in the lower drywell. Parent claim 5 states the recirculation pumps are used to circulate the cooling water that is within the pressure vessel. The pumps cause this circulation within the pressure vessel itself, by means of the impellers or pump portions 71. It is not possible for the impellers or pump portion 71 (which are inside the pressure vessel) to circulate cooling water through the heat exchangers 4 which are positioned outside the pressure vessel and within lower drywell. Presumably, the heat exchangers 4 are used to cool the motors 70 of the recirculation pumps, however, there is no adequate description nor enabling disclosure of however and in what manner, the recirculation pumps can circulate water through the motors 70 and the piping connecting the heat exchangers 4 to the recirculation pumps 1.

If the "cooling water" recited in claim 8 is actually the same "cooling water" recited in claim 5, there is no adequate description nor enabling disclosure of how and in what manner, the "cooling water" which is circulated only within the reactor pressure vessel, is somehow brought outside the reactor pressure vessel to be also circulated through the heat exchangers.

There is no adequate description nor enabling disclosure of how and in what manner, the power supply system is actually constructed such that when at least one of

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said reactor recirculation pumps stops during normal operation, all the other of said reactor recirculation pumps are stopped (as recited in claim 10). It would appear that such would be a manner of operation, rather than a construction itself of the power supply system. Note that a power supply system is only capable of supplying power.

Applicants specification does not disclose that applicants power supply system is somehow, also capable of determining when at least one of the recirculation pumps has stopped during normal operation and then, stopping all of the other recirculation pumps.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of the cooling water circulated by the pump (as recited in parent claim 5) also being passed through the heat exchanger (as recited in claim 8) and, the construction of the power supply system which causes it to stop all of the other recirculation pumps, when at least one of the recirculation pumps stops during normal operation, must be shown or the feature(s) cancelled from the claims(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not held in abeyance.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

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commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants own admission of prior art in the specification, in view of any of Japan 3026996, Carelli et al or Isberg et al, for the reasons set forth in section 11 of the 7/27/04 Office action.

Applicants arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor, has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references, is improper or invalid. Note in this respect that applicant has not specifically rebutted the examiner's statements in lines 3-7 page 9 of the 7/27/04 Office action.

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Furthermore, applicants claims do not recite the normal position of each runner with respect to a through -cutout, during normal operation. Applicants claim 5 recites only, that at some point in time, the runners are aligned vertically with the through -cutouts (note that this only recites a desired manner of operation or a capability, which is inherently met by the admitted prior art as above modified).

There is nothing in applicants claim language to preclude each of the runners from being first being moved horizontally (from a position not in vertical alignment with a through -cutout) to a position that is in vertical alignment with a through -cutout.

Note that limitations of intended or desired use do not serve to patentably distinguish the claimed structure over that of the reference. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 152 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd 1647.

See MPEP 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is, not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicants own admission of prior art in the specification, in view of any of Japan 3026996, Carelli et al Isberg et al as applied to claims 5-10 above, and further in view of Japan 1202081. for the reasons set forth in section 12 of the 7/27/04 Office action.

Applicants arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor, has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references, is improper or invalid.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicants own admission of prior art in the specification, in view of any of Japan 3026996, Carelli et al or Isberg et al as applied to claims 5-10 above, and further in view of Yoshizumi et al, for the reasons set forth in section 13 of the 7/27/04 Office action.

Applicants arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor, has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references is improper or invalid.

11. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants own admission of prior art in the specification, in view of any of Japan 30269906, Carelli et al or Isberg et al, as applied to claims 5-10 above, and further in view of Japan 0231485.

Japan 0231485 in Fig. 2 shows a pump or pump runner positioned directly vertically below each through -cutout. Said Fig. 2 shows four cutouts with each of said cutouts being vertically aligned with a respective pump or pump runner, at the same time. As set forth in said section 11 of the 7/27/04 Office action, even applicants disclosure indicates there is enough space to provide 6 cutouts for a six pump system if one desired to use a six pump system.

The examiner has already shown that it would have been obvious to modify the admitted prior art by utilizing a four pump or six pump system.

It would accordingly have been prima facie obvious to have modified the admitted prior art by having each of the pumps or pump runners, be vertically aligned with a respective through -cutout, at the same time in view of the above referenced teachings of Japan 0231485 because such provides for ease of maintenance and would be more economical.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicants own admission of prior art in the specification, in view of any of Japan 3026996, Carelli et al Isberg et al, an further in view of Japan 1202081, as applied to claim 8 above, and further in view of Japan 0231485, for the reasons set forth in section 11 above.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicants own admission of prior art in the specification, in view of any of Japan 3026996, Carelli et al or Isberg et al, and further in view of Yoshizumi et al, as applied to claim 9 above, and further in view of Japan 0231485, for the reasons set forth in section 11 above.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harvey Behrend whose telephone number is (571) 272-6871. The examiner can normally be reached on Tuesday to Friday.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (571) 272-6873. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Behrend/vs
April 28, 2005

A handwritten signature in black ink, appearing to read 'H. Behrend', with a stylized flourish at the end.

**HARVEY E. BEHREND
PRIMARY EXAMINER**